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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,832	10/15/2003	Kunio Yamada	L8638.03102	9864

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EXAMINER	
ANYIKIRE, CHIKAODILI E	
ART UNIT	**PAPER NUMBER**
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	**Application No.** 10/684,832	**Applicant(s)** YAMADA, KUNIO	
	Examiner Chikaodili E. Anyikire	**Art Unit** 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3, and 4* is/are rejected.

7)☒ Claim(s) *2* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *20040102*.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The Office Action is responsive to application number (10/684,832) filed on October 15, 2003. Claims 1-4 are pending and have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-4 rejected under 35 U.S.C. 102(b) as being anticipated by Elfrig et al (US 5,991,447).

As per claim 1, Elfrig et al discloses a method of encoding (Fig 2, Col 5, Ln 20-23) and decoding motion picture (Fig 7, Col 15, Ln 21-24) comprising the steps of:

dividing a middle frame at about the midpoint (Fig 4, 420, Current B-VOP) between a previous key frame (Fig 4, 400, Past Anchor VOP) and a succeeding key frame (Fig 4, 440, Future Anchor VOP) in chronological order into a large number of patch-like regions (Fig 1, 117, 118, and 119) according to its textural characteristics;

estimating forward and backward motion vectors (Fig 4, $MV_{f,top}$ and $MV_{b,top}$) based on the previous key frame (400) and the succeeding key frame (440) respectively for each of the region-divided patch images (117, 118, and 119) in the middle frame (420, Col 5, Ln 58-63)

evaluating the reliability of each of the estimated forward and backward motion vectors ($MV_{f,top}$ and $MV_{b,top,}$ Col 5, Ln 58-65) to encode information on the motion picture (Col 5, Ln 20-23) including information on the previous (400) and succeeding key frames (440), the patch images (117, 118, and 119) in the middle frame (420), the forward and backward motion vectors ($MV_{f,top}$ and $MV_{b,top}$), and the reliability of each of the vectors (Col 5, Ln 58-65);

decoding (Fig 7, Col 15, Ln 21-24) frames near the previous key frame (400) by interpolating the forward motion vectors ($MV_{f,top}$) between the previous key frame (400) and the patch images (117, 118, and 119) in the middle frame (420, Col 15, Ln 39-65);

decoding (Fig 7, Col 15, Ln 21-24) frames near the succeeding key frame (440) by interpolating the backward motion vectors ($MV_{b,top}$) between the patch images (117, 118, and 119) in the middle frame (420) and the succeeding key frame (440, Col 15, Ln 39-65); and

decoding (Fig 7, Col 15, Ln 21-24) frames between the previous key frame (400) and the succeeding key frame (440) by interpolating either of the motion vectors that has higher reliability to compensate for their motion (Col 15, Ln 39-65 and 62-67, and Col 16, Ln 1-5).

As per claim 3, Elfrig et al discloses a motion picture encoding device (Fig 2, Col 5, Ln 20-23) comprising:

means for dividing a middle frame at about the midpoint (Fig 4, 420, Current B-VOP) between a previous key frame (Fig 4, 400, Past Anchor VOP) and a succeeding key frame (Fig 4, 440, Future Anchor VOP) in chronological order into a large number of patch-like regions (Fig 1, 117, 118, and 119, Col 4, Ln37-39) according to its textural characteristics;

means for estimating forward and backward motion vectors based on the previous key frame (400) and the succeeding key frame (440) respectively for each of the region-divided patch images in the middle frame (420, Col 5, Ln 58-63);

means for evaluating the reliability of each of the estimated forward and backward motion vectors (Col 3, Ln 34-40); and

means for transmitting the motion picture (Fig 1, 60) by encoding information on the previous (400) and succeeding key frames (420), the patch images (117, 118, and 119) in the middle frame (420); note: the frame is an example of an shape that represents patch-like region), the forward and backward motion vectors, and the reliability of each of the vectors).

As per claim 4, Elfrig et al discloses the motion picture decoding device for decoding the motion picture data coded by said motion picture encoding device according to claim 3 (Fig 7, Col 15, Ln 21-24), comprising:

means for decoding frames (Fig 7, Col 15, Ln 21-24) near the previous key frame (400) by interpolating the forward motion vectors ($MV_{f,top}$) between the previous key frame (400) and the patch images (117, 118, and 119) in the middle frame(420) to compensate for their motion (Col 15, Ln 39-65);

means for decoding frames (Fig 7, Col 15, Ln 21-24) near the succeeding key frame (440) by interpolating the backward motion vectors ($MV_{b,top}$) between the patch images (117, 118, and 119) in the middle frame (400) and the succeeding key frame (440) to compensate for their motion (Col 15, Ln 39-65); and

means for decoding frames (Fig 7, Col 15, Ln 21-24) between the previous key frame (400) and the succeeding key frame (440) by interpolating either of the motion vectors that has higher reliability to compensate for their motion (Col 15, Ln 39-65 and 62-67, and Col 16, Ln 1-5).

Allowable Subject Matter

4. Claim 2 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art Cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,252,975 to Bozdagi et al is cited for the motion encoding and global motion estimation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chikaodili E. Anyikire whose telephone number is (571) 270-1445. The examiner can normally be reached on Monday to Friday, 7:30 am to 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272 - 7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CEA

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